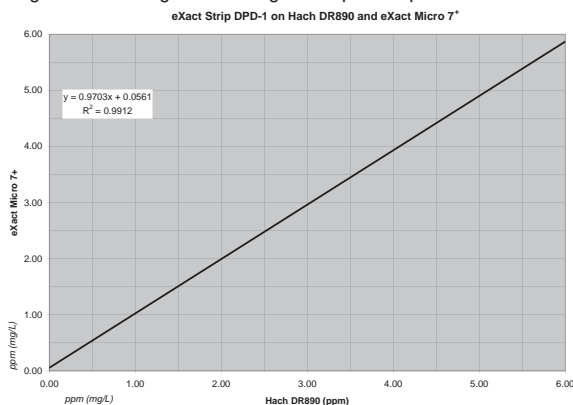


eXact® Strip Micro DPD-1 Accuracy

Free Chlorine results are compared using the eXact® Strip Micro CL (DPD-1) with the eXact® Micro 7+ Meter in Menu CL1 and Hach® DR890 Colorimeter in Program 9 and Program 12 using Hach® powder pillows.

DR890	Micro 7+
0.00	0.01
0.04	0.03
0.07	0.08
0.79	0.73
0.98	0.96
1.55	1.52
2.08	2.12
2.4	2.6
2.9	3.3
4.0	3.9
5.5	5.2



Meter	Menu	Range (PPM)	Resolution
Micro 7+	CL1	0.00 to 2.39	0.01
		2.4 to 6.0	0.1
DR890	Program 9	0.00 to 2.20	0.01
	Program 12	0.0 to 11.0	0.1

Hach® is a registered trademark of Danaher Corporation

The eXact® Micro 7+ Line of Kits

- (486691-K)**
Standard Kit
Includes:
- (486691-KP)**
Pool/Spa Kit
Includes:
- (486691-WD)**
Well Driller Kit
Includes:
- (486691-AQ)**
Pond/Aquarium Kit
Includes:

- 1 eXact® Micro 7+ Meter (486691)
eXact® Strip Micro DPD-1 (486637-25)
eXact® Strip Micro DPD-3 (486638-25)
eXact® Strip Micro pH (486639-25)
eXact® Strip Micro Total Alkalinity (486641-25)
eXact® Strip Micro Calcium Hardness (486629-25)
eXact® Strip Micro Copper (486632-25)
1 Mixing Cap
1 Cell Cleaning Brush
This Instruction Booklet
Plastic Carrying Case
AAA Batteries (4)
- 1 eXact® Micro 7+ Meter (486691)
eXact® Strip Micro DPD-1 (486637-25)
eXact® Strip Micro DPD-3 (486638-25)
eXact® Strip Micro pH (486639-25)
eXact® Strip Micro Total Alkalinity (486641-25)
eXact® Strip Micro Calcium Hardness (486629-25)
eXact® Strip Micro Copper (486632-25)
eXact® Reagent Cyanuric Acid (481652)
1 Mixing Cap
1 Cell Cleaning Brush
This Instruction Booklet
Plastic Carrying Case
AAA Batteries (4)
- 1 eXact® Micro 7+ Meter (486691)
eXact® Strip Micro DPD-1 (486637-25)
eXact® Strip Micro DPD-3 (486638-25)
eXact® Strip Micro pH (486639-25)
eXact® Strip Micro Total Alkalinity (486641-25)
eXact® Strip Micro Calcium Hardness (486629-25)
eXact® Strip Micro Copper (486632-25)
eXact® Micro TPTZ Total Iron (486650)
eXact® Micro Manganese (486606)
1 Mixing Cap
1 Cell Cleaning Brush
This Instruction Booklet
Plastic Carrying Case
AAA Batteries (4)
- 1 eXact® Micro 7+ Meter (486691)
eXact® Strip Micro DPD-1 (486637-25)
eXact® Strip Micro DPD-3 (486638-25)
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eXact® Strip Micro Total Alkalinity (486641-25)
eXact® Strip Micro Calcium Hardness (486629-25)
eXact® Strip Micro Copper (486632-25)
eXact® Strip Micro Nitrite (486623-25)
eXact® Strip Micro Nitrate (486617-25)
eXact® Strip Micro Ammonia (483343-M)
1 Mixing Cap
1 Cell Cleaning Brush
This Instruction Booklet
Plastic Carrying Case
AAA Batteries (4)

Contact Information

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Revision 07/09/09
486691-K Standard Kit
486691-KP Pool/Spa Kit
486691-WD Well Driller Kit
486691-AQ Pond/Aquarium Kit

eXact® Micro 7+

Advanced Photometer System Instruction Manual



IDEAL FOR DRINKING WATER, POOLS AND SPAS,
ENVIRONMENTAL, & EDUCATIONAL TESTING

USEPA, DIN, & ISO Compliant for Free & Total Chlorine Testing
(4500-CL G, DIN Standard 38 408 G4, ISO 7393/2)

U.S. Patent No. 7,333,194, U.S. Patent No. 7,491,546, South African Patent No. 2007/0628 and international patent applications including International Patent Appln. No. PCT/US2005/033985; and Eur. Pat. App. 1,725,864



Micro 7+ is
Manufactured and tested in
an ISO 9001
Facility

The eXact® Micro 7+ Advanced
Photometer System has been
designed for use with the eXact® Strip
Micro reagent delivery system.

Manufactured By: Industrial Test Systems, Inc.
1875 Langston Street, Rock Hill, SC 29730 USA
Phone: 1-800-861-9712 - *INSIDE THE U.S.*
1-803-329-9712 - *OUTSIDE THE U.S.*
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Permanganate (DPD-1)	4	CL1
Total Chlorine (DPD-3)	5	CL1
Ozone (DPD-4)	6	CL1
Total Chlorine (DPD-4)	6	CL1
pH	6	PH2
Bromine	7	BR3
Total Alkalinity	7	AL4
Calcium Hardness (CaCO ₃)	8	CA5
Copper	8	CU6

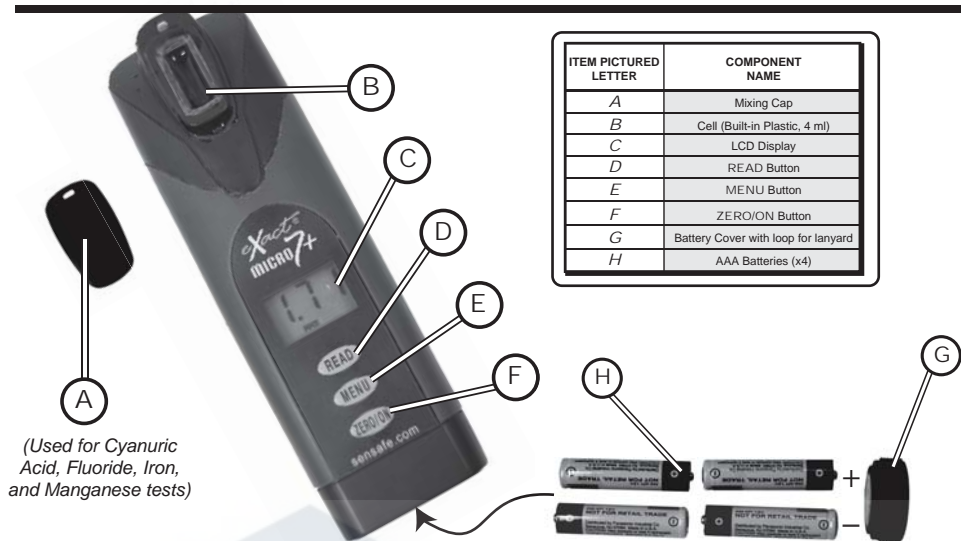
(NOTE: The below tests are read as %Transmission and require the use of a conversion table)

General TR7 Procedure	9	Tr7
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Cyanuric Acid	17	Tr7
Fluoride	18	Tr7
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Ferrous & Total Iron, TPTZ	21	Tr7
Total Iron, Ferro (Fe ²⁺ /Fe ³⁺)	22	Tr7
LR Total Hardness (up to 77ppm)	23	Tr7
Manganese	24	Tr7
Nitrate	25	Tr7
Nitrite	26	Tr7
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Sulfate (SO ₄)	28	Tr7
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Visit us online at sensafe.com/micro7+ for up-to-date product information & NEW tests available.

eXact® Micro 7+ Photometer



ITEM PICTURED LETTER	COMPONENT NAME
A	Mixing Cap
B	Cell (Built-in Plastic, 4 ml)
C	LCD Display
D	READ Button
E	MENU Button
F	ZERO/ON Button
G	Battery Cover with loop for lanyard
H	AAA Batteries (x4)

(Used for Cyanuric Acid, Fluoride, Iron, and Manganese tests)

eXact® Micro 7+ Meter Specifications

Measurement Method:	Photometric	Cell Chamber:	Custom-molded, proprietary, PET plastic fused into chamber, non-removable
Light Source:	Light Emitting Diode (LED)	Sample Required:	4 ml (0.13 oz)
Wavelength:	525 nm	Operating Temperature Range:	0 - 50°C (32° - 122°F)
Transmission Range:	100 - 0.00 %T	Power Supply:	(4) AAA alkaline batteries
Photometric Precision:	+/- 0.1/0.01 %T	Battery Life:	>2000 tests with alkaline batteries
Automatic Range Selection:	See Specifications below	Electromagnetic Compliance: (EMC)	Emitted Interference - EN 61326 Immunity to Interference - EN 61326
Display:	3-digit customized liquid crystal display with annunciators	Waterproof Rating:	Exceeds IP67
CELL Pathlength:	20mm	Weight:	Instrument: 140 g (5 oz) Instrument: 5 (W) x 3.5 (D) x 16.5 (H) cm; (2 x 1.4 x 6.375 in)

We offer a "Green" Alternative

eXact® Strip Micro 7+ has been designed to offer the user a more "Green" and cost-effective alternative to testing. Instead of using a 10ml water sample, eXact® Strip Micro 7+ uses a 4ml water sample, which uses up to 60% less chemical per test. The accuracy of the meter is maintained by designing the photo cell with a 20mm pathlength.

eXact® Micro 7+ Specifications

Menu	Tests for	Range	Resolution	+/- Accuracy
CL1	Free Chlorine (DPD-1) & Total Chlorine (DPD-3)	0.00 - 6.0 ppm	0.01 (0.00 - 2.39 ppm)	0.02
			0.1 (2.4 - 6.0 ppm)	0.1, or 4%
PH2	pH	6.2-8.4 pH	0.1	0.3
BR3	Bromine (DPD-1)	0.00-9.0 ppm	0.01 (0.00 - 1.99 ppm)	0.03
			0.1 (3.0 - 9.0 ppm)	0.1, or 4%
AL4	Total Alkalinity	20-180 ppm	1	25
CA5	Calcium as CaCO ₃	20-990 ppm	10	20 or 7%
CU6	Copper (Cu ²⁺)	0.00-8.0 ppm	0.01 (0.00 - 2.99 ppm)	0.02
			0.1 (3.0 - 8.0 ppm)	0.1 or 4%
TR7	Transmission (29 other test parameters)	99.9-0.01 %T	0.1 (99.9 - 10.0 %T)	0.1
			0.01 (9.99 - 0.01 %T)	0.01

eXact® Strip Micro 7+ Reagent Reorder Information

eXact® Strip Micro (4mL) Reagent Specifications - For use with eXact® Micro 7+, Part no. 486691

No.	PARAMETER	PART NO.	# OF TESTS	DETECTION RANGE	CHEMISTRY
	eXact® Micro Carrying Case w/ foam	486001	N/A	N/A	N/A
	Dilution Kit	487200	N/A	N/A	N/A
1	Alkalinity, Total	486641	100	20 - 180 ppm	Alizarin Red S + Citrate
2	Bromine (DPD-1)	486637	100	0.01 - 9.0 ppm	DPD
3	Calcium (as CaCO ₃)	486629	50	20 - 990 ppm	Oxalic Acid
4	Chlorine, Free (DPD-1)	486637	100	0.01 - 6.0 ppm	DPD
5	Chlorine, Total (DPD-3)**	486638	100	0.01 - 6.0 ppm	KI
6	Chlorine, Total (DPD-4)	486670	100	0.01 - 6.0 ppm	DPD + KI
7	Copper (Cu ²⁺)	486632	50	0.04 - 8.0 ppm	Biquinoline
8	Ozone (DPD-4)	486670	100	0.01 - 10.0 ppm	DPD + KI
9	Permanganate (DPD-1)	486637	100	0.01 - 4.5 ppm	DPD
10	pH	486639	100	6.2 - 8.4	Phenol Red
11	Ammonia*	483343-M	25	0.03 - 5.8 ppm	Salicylate Method
12	Chloride (as NaCl)* 1:40 Dilution of sample	481657	25	3 - 285 ppm 100 - 11000 ppm	Silver (ppt)
13	Chlorine Dioxide (DPD-1)*	486637	100	0.03 - 6.5 ppm	DPD
14	Chromate (Chromium)*	486614	50	0.02 - 4.89 ppm	Diphenylcarbazide
15	Cyanuric Acid*	481652	130	5 - 62 ppm	Melamine (ppt)
16	Fluoride*	486643	25	0.1 - 1.1 ppm	SPADNS
17	Hydrazine*	486649	50	1 - 2.0 ppm	4-Dimethylaminocinnamaldehyde
18	Hydrogen Peroxide LR*	486616	50	0.01 - 4 ppm	DPD + PO ₄ + MO ₄ + KI
19	Hydrogen Peroxide MR*	486648	50	1 - 42 ppm	DPD + MO ₄ + KI + acid
20	Hydrogen Peroxide HR*	486670	100	10 - 1000 ppm	DPD + KI
21	Iodine (DPD-1)*	486637	100	0.01 - 10 ppm	DPD
22	Iron, Ferrous (Fe ²⁺)*	486631	50	0.01 - 2.00	TPTZ
23	Total Iron, TPTZ (Fe ²⁺ /Fe ³⁺)*	486650	50	0.03 - 3.8 ppm	TPTZ + PP
24	Total Iron, Ferro (Fe ²⁺ /Fe ³⁺)*	486651	50	0.05 - 3.5 ppm	1,10 Phenanthroline
25	LR Total Hardness (as CaCO ₃)*	486630	100	2 - 77 ppm	Phthalein Purple
26	Magnesium*	486647	50	10 - 400 ppm	Ammonium Phosphate (ppt)
27	Manganese*	486606	24	0.03 - 1.5 ppm	PAN + Cyanide
28	Nitrate (as NO ₃)*	486617	50	13 - 140 ppm	Zinc Reduction
29	Nitrite (as NO ₂)*	486623	50	0.05 - 3.5 ppm	Chromotropic Acid
30	pH, Acid*	486624	50	3.0 - 6.2	Alizarin Red S
31	pH, Alkali*	486609	50	8.3 - 9.6	Thymol Blue
32	Potassium*	486621	50	2 - 200 ppm	Tetraphenylborate
33	Protein (as BSA)*	486620	50	0.3 - 16.0 mg/L	Sulfosalicylic Acid
34	Sulfate*	486608	50	1 - 111 ppm	Barium (ppt)
35	Sulfide (as H ₂ S)*	486646	50	0.1 - 13 ppm	NPS
36	Turbidity* (as transmission)	None	No Reagent	3 - 580 NTU	Turbidity values as NTU

* Results utilize the Tr-7 (Transmission) meter function and require the use of a conversion table. See respective test procedures for more information and tables.

** Total Chlorine DPD-3 Test requires Free Chlorine DPD-1 (486637) to be run first.

PRICES & SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: Because most of our products are test strips or use reagents that have little or no hazard in the quantity sold, MSDS sheets are not supplied with the test. The exceptions are the Manganese (486606) test, which comes with 2 strips and one liquid reagent (PAN); Fluoride (486643) test, which is a liquid reagent (SPADNS), and Iron (481623) test, which is a powder reagent. Hydrazine (486649) uses a liquid and strip.

If your required procedure is not listed in this manual, please see the back page for our contact information.

To ensure optimal performance, store your eXact® kit in a cool, dry place away from excess heat (below 100°F / 38°C), moisture, and oxidizers such as Chlorine and Bromine.

